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ABSTRACT

This guide is designed to supplement a computer disk (a hypercard stack) that introduces students to issues raised in the debate over global warming. The stack is recommended for grades 9 through 12, and is appropriate for social studies, government, or science courses. This guide integrates a number of interactive teaching strategies including role play, small group activities, cooperative learning, writing, and visual activities. Although the hypercard stack contains much of the information necessary for the activities, most require students to do further research outside the classroom, and some do not involve the computer at all. (DB)

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GLOBAL WARMING

A SUPPLEMENTARY GUIDE TO THE HYPERCARD STACK

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GLOBAL WARMING

A SUPPLEMENTARY GUIDE TO THE HYPERCARD STACK

Recommended for Grades 9-12

Developed by Adrian Chan
with the assistance of Judy Wooster

Design and Production by J. Eric Jones

For the Stanford Program on International
and Cross-Cultural Education

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overview

the Global Warming Hypercard stack

The *Global Warming* disk contains a HyperCard Stack Tour of issues related to global warming. Divided into three sections, the stack introduces students to issues raised in the debate over global warming. It is recommended for grades 9-12, and is as appropriate for social studies or government courses as it is for science courses, though you will find that some activities can be more easily integrated into your curriculum than others.

We have assumed that you have one Apple Macintosh Plus (or above) in your classroom. We have also assumed that before using *Global Warming* in the classroom, you will be able to explain basic procedures to students. Use of the *Global Warming* HyperCard Stack is simple and self-explanatory. Each of its three sections, *"How may it impact your life?," "Why are scientists concerned?,"* and *"What can you do?"* contains a short tour of global warming issues. Prompts on the screen either take you forward in the tour, or return you to previous stages and levels. You have finished the stack when you have completed all three of the tours.

about the guide

The use of computers in the classroom continues to spark the interest of teachers, administrators and curriculum developers. When used properly, computers are indeed highly motivating and rewarding, developing skills that are applicable to an increasing number of real-life experiences and professions. The activity suggestions contained in this guide to the *Global Warming* HyperCard Stack should help you get the most out of your classroom's Macintosh.

Global Warming: A Supplementary Guide integrates a number of interactive teaching strategies including role play, small group activity, cooperative learning, writing, and visual activities to supplement the educational value of *Global Warming*. Although the stack contains much of the information necessary for the following activities, most require students to do further research outside the classroom, and some activities do not involve the Macintosh at all.

Section One: Introducing the Topic

This first section is the only one intended to be followed as a lesson plan. Students take the pre-test and, after defining some useful terms, read a short story. After discussing global warming issues contained in the story, the teacher asks questions that introduce the themes of subsequent activities.

Section Two: Sharing the HyperCard Stack

In this section we outline some procedures you might follow when using *Global Warming* in your classroom.

Section Three: Debriefing Activities
These activities incorporate a number of motivating strategies to debrief what students have learned from *Global Warming*. Most of the activities require group work and research.

Section Four: Extension Activities
These activities expand on themes raised in *Global Warming* and this guide. Also utilizing group work, they should be fun and creative.

some alternatives

There are countless other ways to use your computer as a teaching aid. Try some of these:

- Several of the activities in this packet require students to do group writing. Organize time for them to use the computer for their writing assignments. The final product looks much more professional! Don't forget that you can write group quizzes or tests on the Macintosh and leave them there for students to complete during the allotted time.

- Form letters to be presented to students, teachers, school or district administrators, local or state representatives, corporate executives etc., will appear more convincing if you design them on the Macintosh.

- If you are interested in graphic design or page layout, try designing professional-looking documents on the computer. You might find that your students approach the activity more seriously.

equipment

You will first need a Macintosh Plus that uses HyperCard 1.2.2 and System Software 6.0.4 or above. With a printer, you can print any card on the *Global Warming* stack, just by pressing Shift-Option-P. With a word processing program, you and your students can also develop your own handouts.

first things first...

Make a backup copy of the disk for classroom use. You may also want to copy the stack onto the computer's hard disk, if it has one, to speed up its operation. The activities included in this curriculum guide require only one Macintosh and one copy of the disk.

section one

introducing the topic of global warming

The activities suggested here include a pre-test, a short story, and an introduction to terms used in the global warming debate. None of the activities in this section require use of the HyperCard stack. We recommend that you follow the sequence in which they appear.

The objectives for this section are:

- to encourage students to reflect on issues of global warming
- to introduce students to some terms used in the discussion of global warming
- to discuss who is affected and who should be concerned by global warming
- to prompt students to think about the debate over research versus preventive action

activities

1. Before using *Global Warming,* you should assess students' prior knowledge of the topic with the pre-test. Distribute one copy to each student, and allow them five minutes to complete it. Review the answers with the answer key.

2. Some of the following terms appear in the pre-test. All of them appear in the *Global Warming* stack. List them on the board and define them as accurately as you can. Ask students to volunteer definitions.

CFCs; deforestation; "greenhouse effect;"
flourescent lights; fossil fuels; hydro;
natural disasters; ozone hole; solar energy; smog

Together with the class, or with students in partner pairs, categorize the terms as "causes" or "outcomes" of global warming, or as "alternative resources." Debrief the terms with the whole class and discuss those which were difficult to define. (See also the glossary and crossword activities under Section Four.)

causes: CFCs; fossil fuels; smog; deforestation
outcomes: "greenhouse effect"; natural disasters; ozone holes;
alternative resources: flourescent lights; hydro; solar energy

3. Distribute one copy of the short story: *The Fragile Environment,* to each student. After students have read the story, divide them into partner pairs and ask them to write a definition of global warming and to list its possible causes. Have students discuss the story in pairs. What should the people on the planet do? How could the story end?

List the alternatives on the board and discuss them. You may want to use the list to debrief these activities on global warming later.

4. Tell the class that there is a lot of public debate on global warming. The participants in this debate often disagree over the causes and dangers of global warming. Briefly discuss who should be engaged in the debate over global warming and other environmental issues. (e.g. politicians, diplomats, business leaders, scientists, citizens, etc.)

5. As a result of this debate, there are many different views on what should be done to prevent environmental damage over the short and long term. For example, some people advocate immediate action, such as bans on the use of certain products or fuels, while others advocate further research before action. Lead students to consider the pros and cons of research and action, and ask them the questions below. You may want to ask them again after doing some activities in this guide.

Have students raise their hands in favor of research or immediate action. Ask them if research is a form of action. If some students are undecided, discuss their reasons. Count hands and make a note of the results. Compare the results with a show of hands when you have finished doing these activities on global warming.

Questions:

- Who is affected by global warming? Are all people affected equally?
- What are some causes of global warming?
- Is any person, nation, or industry, etc., responsible for global warming? If so, why? Should it be their responsibility to take preventive action against global warming?
- When should action occur?
- What is "scientific fact?" What makes a fact, and how much research is required to prove a fact?
- At what level of certainty would research have proven global warming a "scientific fact?"

6. Ask students to write an ending to the story. Discuss these on the following day.

pre-test

Answer the following questions by circling your answer:

1. Global warming is associated with a rise in the temperature of the atmosphere. *True / False*

2. Global warming is a disruption of the environment that could be caused by people or by nature. *True / False*

3. Scientists from around the world agree on the causes and hazards of global warming. *True / False*

4. Global warming could:
a) raise the level of the oceans and cause land loss;
b) threaten endangered species of animals;
c) increase skin cancer rates;
d) trigger natural disasters such as tropical storms, forest fires and flooding;
e) all of the above.

5. Which of the following has been identified as a possible cause of global warming?
a) coal *b) nuclear energy*
c) fluorescent lights *d) windmills*
e) ozone *f) none of the above.*

6. Which of the following has not been identified as an alternative use or source of energy?
a) solar energy *b) nuclear energy*
c) oil *d) fluorescent lights*
e) windmills *f) none of the above.*

7. Scientists are unsure of the contribution of these factors to global warming:
a) clouds and oceans
b) fossil fuelsand CFCs
c) solar and nuclear energy
d) all of the above

8. The US leads the world in energy efficiency. *True / False*

9. Suggest three ways in which anyone might act to reduce the risk of global warming:

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answer key

1. Global warming is associated with a rise in the temperature of the atmosphere. *True*

2. Global warming is a disruption of the environment that could be caused by people or by nature. *True*

3. Scientists from around the world agree on the causes and dangers of global warming. *False*

4. Global warming could *e) all of the above*

5. Which of the following has been identified as a possible cause of global warming? *a) coal*

6. Which of the following has not been identified as an alternative use or source of energy? *c) oil*

7. Scientists are unsure of the contribution these two factors make to global warming: *a) clouds and oceans*

8. The US leads the world in energy efficiency. *False. Japan, Sweden, and Western Europe lead the US.*

9. Suggest three ways in which anyone might act to reduce the risk of global warming:

Possible answers:

- Use fewer fossil fuels by consuming less energy or use alternative sources of energy.
- Drive less, carpool more, or use public transportation.
- Stop using aerosols and other products that produce or contain CFCs.
- Recycle or reuse paper, metal, and glass.

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The Fragile Environment

Once upon a time, there existed a small planet near a large sun in a small corner of the universe. This planet had a very fragile atmosphere, and the people who lived there were afraid that they might have damaged their world beyond repair. For a short one hundred of the planet's millions of years of life, some of its people had been using planes, trains, and automobiles to get around faster; trucks, tankers, and ships to move cargo; drills, pumps, and mines to bore deep into the planet's surface; polyethylene, polyester, teflon, and vinyl to give things shine and sheen. And on top of that, they produced a *whole lot* of garbage.

Now, not everyone on this planet lived in the same place; but since they all lived on the same planet, they shared its resources, or so they said. To be honest, some people consumed more of the planet's resources than others. Soon the planet's fragile atmosphere became dense with pollution and trapped more heat, and as a result it heated up a little. Ice at the planet's North Pole slowly melted; trees wilted in the heat; animals died from hunger and thirst; fish were killed by the growth of algae; and brown spots caused by the sun's dangerous radiation appeared on the people's skins. "What should we do?" the people asked, some more anxiously than others. "We do not yet have firm evidence," said one scientist, "that 'global warming' is anything more than another natural trend." Said another, "If we don't act now to care for our environment, we may not have one by the time this is over." Researchers scratched their heads as they tried to make sense of new data. None of it established that global warming was a proven scientific fact.

Some of the people were more affected by these unhealthy symptoms than others, because they lived in more hazardous locations. They complained that they had nothing to do with this "global warming," adding that they had no money to do anything about it anyway. The people in the places with the big machines thought a while, and said "we need to know more before we can act." "Yes, we need to know that 'global warming' is real. It needs to be proven a scientific fact," echoed a colleague in the field.

Although the people on this planet loved their fragile environment, not everyone could agree on appropriate measures. The challenge was to make better machines—different machines—alternative machines, and that of course meant spending more money. Since nobody could live without energy, it seemed the best solution was to invent some alternative ways of generating it. Some people had been saying for years that the sun, wind, and water could provide this energy. Some had been saying that nuclear power could do it too. But not all scientists agreed, because there was more research to do before they could determine that "global warming" was really happening. That was a long time ago. Now. . .

sharing the Global Warming HyperCard stack

Global Warming is divided into three sections: *"How may it impact your life?" "Why are scientists concerned?"* and *"What can you do?"* These are listed in the stack's table of contents, and a mouse click on the box next to them will open them up. When you assign groups to different sections of *Global Warming*, each group develops expertise in one subject area, or section. The procedures below should help you use the Macintosh together with *Global Warming*, and can be adapted for use in many of the activities contained in Sections Three and Four of this guide.

You will first need to determine how and when students will spend time at the Macintosh, based on the number and location of your school's Macintosh(es). If the Macintosh is not in the classroom, you will need to make sure that students understand how they are going to use the *Global Warming* stack. Many of the activities suggested here require students to work in cooperative small groups. In some cases, these can be broken down further into student partner pairs. Small groups make it easier for students to work on the Macintosh; they also divide the knowledge so that students become "experts" on the issues they research.

Explain to students that, as "experts," they will be responsible for providing the class with information on their section of *Global Warming*, and that they will have to work cooperatively within their groups to share their research for the activities to come. If student groups cannot work on the Macintosh in your classroom, make sure they know exactly what to do on the computer. Tell them which section of *Global Warming* they are to use, and what they need to do in order to prepare for the particular activity you have chosen to do.

procedure

Any of the activities suggested here could be used as student evaluations. Be sure to announce which activity you will use as a student assessment; this will encourage students to take their group work more seriously.

If the computer is in the classroom, help each group while the rest of the class works on your other lessons. Tell students how often they will be working with *Global Warming*, and how much time they will be allotted.

1. Before starting with the Macintosh, discuss the story with your class. What endings did students write? Were the endings optimistic or pessimistic? Do students think there is anything they can do?

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2. Form student groups of two to five and assign each group a time to do one of the three sections listed in the stack's table of contents. Small groups will be more effective than large ones. Because Sections Two and Three of the stack are longer than Section One, you may want to assign fewer groups to Section One. Each group should spend approximately 15 minutes with *Global Warming*. Students should take notes and keep a list of glossary terms (boldfaced terms can be clicked with the mouse for definitions).

   The opening menu contains some features you might want to use for yourself or for distribution to students:

   - Click **Help** to see stack maps of each category and use these in planning the activities.

   - Print the bibliography (see **References**) and the maps (see "Stack Maps" under **Help**) available on the opening menu for student research. Click the printer icon to print these files.

3. If you assigned students to one section of the stack, each group will have an incomplete picture of what is contained in *Global Warming*. Divide students according to the three sections they had before and ask the groups to compile a list of questions they would like answered to "complete the picture." Ask students in Section One to volunteer some questions and list these on the board as well. Call on students in other sections to suggest some answers and write these on the board. Repeat this so that students in Sections Two and Three have some of their questions answered. For activities suggested later in this guide, you can either assign each group the section with which it is already familiar or "rotate" it to another section.

   You may find that you have many holes to fill before getting a "complete picture." At this point you might use the Macintosh at the front of the classroom to look up the answers to some of these questions.

debriefing activities

"Debriefing activities" require students to reflect on and apply what they have learned so far. Each activity also uses *Global Warming* to deepen student knowledge about a particular issue. Try some of these activities after your students have become familiar with *Global Warming*.

The objectives of this section are:

- to debrief issues raised by *Global Warming*
- to draw connections between *Global Warming* and broader scientific, economic, political, and social concerns
- to debate some of the arguments made in *Global Warming*

article writing

Using the "News Flash" at the beginning of *Global Warming* as an example, have students work in pairs to write a news editorial in response to the disaster reported in the Maldives. (There may be some current events you could use here in place of the Maldives incident.) Editorials should include some of the following points:

- an explanation for the flooding of the Maldives
- what your local community can and should do for the immediate needs of the disaster victims
- what the federal government and the international community can and should do to prevent future disasters
- whether the disaster was caused by humankind or by nature
- whether or not your local community can and should do anything in preparation for the long-term consequences of global warming

encyclopedia entry

1. Using the information contained in *Global Warming*, and that which students can find elsewhere, have students work in groups to write an encyclopedia entry on global warming. While one group works on the Macintosh, other groups do library research.

2. Rather than assigning students an encyclopedia entry on the entire topic of global warming, have them focus on one or part of one section of the stack. Groups can even write their entries based on only one section of *Global Warming*. Suggest that students use magazine or newspaper photos where appropriate, and ask them to index their entries. What headings do students think their entries should fall under?

3. Encourage students to decide what points they consider most important for the entries. The following questions raised in other activities might be included in the entries:

- What is scientific consensus? Controversy?
- What are some points of contention in the global warming debate? Why?
- What do scientists predict could happen as a result of global warming? Why?
- What are some of the steps scientists have recommended to reduce the environmental impact of energy consumption?
- What short- and long-term steps have been recommended, and by whom?
- What are some possible causes and effects of global warming? What are some alternative energy sources?

When the articles are finished, create a classroom or library display. Discuss the reasons students had for choosing what to include in the entries.

debate

In this activity, students conduct a debate using *Global Warming* as a source of information. The objective of the debate is to see how well both teams choose the information that best supports their arguments. Though preceding activities will make good preparation for the debate, you should choose a debate topic that will interest your students. Some current events might even be appropriate.

Possible debate topics include:

- Should alternative energy sources become a priority for research? (*Group research*: Which alternatives are, or could be, economically feasible? How might these be introduced into society? Should alternatives become mandatory over time?)

- Can the local public transportation system be improved? If so, how? (*Group research*: What improvements need to be made in the local public transportation system? What plans have surfaced in the past, and what are their projected costs? How much should taxpayers be asked to pay for improvements?)

- How could the local community institutionalize recycling? (*Group research*: How and why should certain materials be recycled? What costs does recycling entail? Is recycling efficient?)

- What is the significance of the "environmental variables" noted in *Global Warming*? (*Group research*: Why are clouds and oceans considered variables? Are these variables significant enough to warrant further research? If so, why?)

1. Divide the class into two equal teams, and make sure that students understand the topic of debate. Each team can be divided into three subgroups, each corresponding to the three sections of *Global Warming*. When students are not working on the Macintosh, they should be doing research.

2. Using *Global Warming*, students will first identify some key facts to use as support for their arguments. Suggest that students divide research tasks, for example, focusing on different aspects of the argument in partner pairs. When every group has had a turn at the Macintosh, allow students time to prepare their debating positions. One student on each side will play the team leader. His or her task is to coordinate the team's debate preparations, and announce the team's position. The facilitator's task (either you or an appointed student) is to clarify arguments and help keep the debate from getting off track.

3. The debate should begin with brief presentations by each side. These should include arguments and supporting facts. Then tell the class how much time will be allowed for the debate. End the debate when both teams have worked out an agreement. The nature of the agreement will depend on the topic of debate; you might ask the class to draft a document or statement of agreement.

4. Discuss the debate. Did one team convince the other? What points did the two teams agree on? What points did they disagree on? Was the debate fair?

5. As homework, have students write about the debating experience. Entries should include whether or not they agreed with their own position and why; who had the best arguments; and what they learned.

extension activities

Extension activities provide an opportunity to assess student learning. Depending on how much students have done until now, some of these activities may require less work with the *Global Warming* stack than those in Sections One and Three of this guide.

The objectives of this section are:

- to deepen student understanding of global warming
- to make students aware of how environmental issues might be communicated in society
- to encourage students to reflect on the dangers of damage from global warming in different parts of the world

glossary

Help students make a list of glossary terms on global warming useful both to themselves and to other students or classes. As in other activities, small groups are responsible for defining the terms used in one section of *Global Warming*, while others do research. Glossary terms chosen by students can be used as an indication of how well they understand implications of global warming.

crossword puzzle

This exercise can be added to the glossary activity above. With the class divided into groups of four or five, have students work on the sections of *Global Warming* they are familiar with to make a ten-word crossword puzzle for the rest of the class. Within each group, two students should draw the puzzle on graph paper, while the rest of the group writes the clues. Copy and distribute as homework.

energy ads

In this activity, students design "environmentally conscious" advertisements. Using product advertisements from magazines or newspapers, students should redesign the ads so that they emphasize environmentalism and the product's contribution to environmental awareness. Features of the ad should include how the product has been redesigned so that it is no longer harmful to the environment and why it is better than less environmentally-safe products. Students can work in partner pairs or in groups of up to five. A similar activity might use products which do not need redesigning but whose benefits are not well advertised, such as alternative energy sources (flourescent lightbulbs, insulation, etc.). Section Three of the *Global Warming* stack could be used as a research base for these ideas.

direct mail

1. In this activity, students write letters to different audiences promoting environmental awareness. Tell students that the average person chooses to either read or throw away a piece of mail in less than six seconds. If the letters written by students are to pass the six-second test, they will also need well-designed envelopes. Allow students to choose between writing the letter and designing an envelope that attracts the reader's attention. Since envelopes should be designed for a specific audience, letter writers and envelope designers should work together, with one pair writing the letter and one pair designing the envelope.

2. In groups as before, all students should use *Global Warming* for their initial research. Letter writers and envelope designers will need to work together to coordinate the message they are trying to communicate to the reader. Envelope designers might use "junk mail" they receive at home for ideas.

3. Letters could be to local politicians about an environmental issue of local concern; to representatives or senators about federal energy policy or international environmental cooperation; to corporate executives concerning their business's responsibility for the environment; to consumers about products that are harmful or harmless to the environment; to voters about the aims of an environmental organization; to a newspaper about supporting recycling; to corporations to solicit support for an environmental awareness day; to the general public announcing an environment fair or benefit concert; or to consumers announcing an environmentally-sound product.

Direct mail tips:

- Students should focus on communicating one concept. For example, a letter to a voter may use concepts such as responsibility, cost, the future, environmental consciousness, or danger. Concepts might be simple, like "green," for example, or complex, like "planning for the future."
- Be direct and state your message at the beginning of the letter.
- Use language that will appeal to the audience you are addressing.
- Make the reader feel that this is urgent and give him or her something to do.

alternatives to direct mail

Because "junk mail" consumes a great amount of time, money, and resources, other means of communicating a message to large numbers of people may appeal more to your students. Ideas contained in the above direct mail activity could be used with alternative means. Your students might be interested in directing a simulated TV ad, for example. Access to a video camera might make this activity even more exciting. Have students try to communicate their messages with posters, magazine ads, radio ads, banners, tickets, packaging, billboards, and other suggestions made by the class.

creative writing

Students write monologues, dialogues, poems, plays, short stories, or essays about the world's environment at some time in the future. The stories might say what people and governments did to prevent environmental damage—if they did anything at all.

role play

1. In this activity, students will role play participants in an international conference on global warming. The negotiation is similar to the debate, with the difference that it focuses on the international level, and thus the responsibilities and interests of nations confronting a problem of global dimensions.

2. Divide the class into groups of three to five, each group representing one country. In preparation for the role play, students will research information relevant to their own country. Set the stage for the role play by explaining that students will be attending an international conference on global warming as representatives of various countries. The purpose of the conference is to develop a treaty acceptable to all nations represented. Explain that countries are sending both scientists and representatives of governments to the conference, and that they may role play either. Assign a national identity to each delegation of students, drawing from a wide range of "developed" and "developing" countries. Nations might include Brazil, France, the United States, the Soviet Union, Bangladesh, Ethiopia, Jamaica, Mexico, Japan, and Germany.

3. Explain to students that questions likely to be addressed at the conference include the following:

- Is there adequate proof that global warming is actually occurring?
- Should further study precede action?
- Should immediate action be taken to avoid environmental damage?
- Are the industrialized nations of the world responsible for global warming and, if so, should they bear the burden of repair?

4. In preparation for the negotiation, students should work in their delegations to research the importance of global warming to their country. When they are ready, they should write brief half-page position statements advancing their negotiation positions. One student in each group will be responsible for presenting these statements. Position statements should demonstrate why global warming is important to the nation concerned. Some examples are energy needs; transportation needs; industrial needs; agricultural needs; damage to plants and crops; land loss; city smog; drought; un/popularity of nuclear energy (e.g. Chernobyl and the USSR); risks to endangered species, etc.

5. Have students play the roles of representatives of the nations at the international conference. The conference begins with the presentation of position statements; negotiations follow. Give the class a time limit for the negotiation, and facilitate the negotiation by keeping track of the arguments on the board.

It is always a good idea to nominate three to five "student monitors." Their job is to watch the debate and take notes on the following:

- Did each side present its position and arguments clearly?
- Did both sides have similar numbers of facts to rely on?
- Did the negotiations proceed in a controlled or haphazard fashion? Could they have been conducted more productively? If so, how?

Here are some points negotiators might make:

- Agricultural and industrial nations may have to pursue different ways of reducing damage to the environment.
- Coastal nations are in great danger from land loss.
- Developed and industrialized nations cause excessive damage to the environment through the production of consumer goods and the consumption of natural resources.
- Consumers in developed nations should seriously consider the energy efficiency of their life styles.
- Developed nations cause the deterioration of natural resources in less-developed countries (e.g., deforestation).

6. Discuss the negotiation with the class. You might want to ask some of the following questions:

   - What is an acceptable definition of "scientific fact?" (Students vote on the following scale: 50% certainty? 60%? 70%? 80%? 90%? 99%? 100%?)
   - What qualifies as "scientific fact" when applied to the measurement of CFCs, temperature increases, impact on animals and plants, etc.?
   - What percentage of the scientific community should agree before a concern like global warming is acted upon? What percentage of the world population should agree?

follow-up ideas

1. Have your students research newspapers and magazines for historical examples of environmental disasters. What kinds of clean-up efforts followed? Were they successful? Did permanent damage to the environment result from the disasters? Is this known? Was anyone found responsible? Was legal action taken?

2. Have your students research newspapers and magazines for examples of international cooperation on environmental issues. What have been the policies of the United States? What international organizations work on environmental issues?

3. Research and compile a list of consumer goods (in particular, energy-consuming appliances) that do not damage the environment. *"What can you do?"* lists six such examples. Send your students into appliance and department stores to look for and compare prices of these goods. Are they packaged differently from the others? You might ask students to interview several shoppers to assess the popularity of the goods. Are environmentally-safe products generally more, or less expensive? What recommendations would students make to their parents?

4. Have your students research newspapers and magazines for examples of environmentally conscious advertisements. What are some good examples of ads that promote environmental awareness? What makes them effective?

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Background

The Stanford Program on International and Cross-Cultural Education (SPICE) represents a long-term effort by Stanford University to improve international and cross-cultural education in elementary and secondary schools. The program traces its origins to 1973 with the initiation of the Bay Area China Education Project, an effort to upgrade teaching about the People's Republic of China. Subsequently, parallel projects on Japan, Africa, Latin America, Western Europe, and the Soviet Union and Eastern Europe were established and, together with the China Project, became the nucleus of SPICE. SPICE also offers services in the fields of geography and foreign language.

In 1979, SPICE joined with two other international resource organizations—the World Affairs Council of Northern California and Global Educators—to form the Bay Area Global Education Program (BAGEP), an international studies resource consortium serving K-12 schools and districts in the San Francisco area. In 1986, Stanford University, in cooperation with the World Affairs Council and Global Educators, was selected to manage the California International Studies Project (CISP), a legislatively based (AB 2543) statewide network of international resource centers for which BAGEP serves as a model. SPICE is the curriculum development and materials resource arm of CISP.

Sponsorship and Support

SPICE is sponsored by the Institute for International Studies and the School of Education at Stanford University. SPICE receives financial support from federal sources, private foundations, and the Institute for International Studies.

Current Programs and Priorities

SPICE's current curricular priority is the development of lessons which enhance the study of world history, cultures, and geography. In the area of staff development, SPICE's priority is to provide support for the programs of the CISP Resource Centers. SPICE also has ongoing staff development efforts through each of its individual projects, and is centrally involved in a yearly summer institute on the Stanford campus in conjunction with BAGEP.

Within the range of its existing project, SPICE will provide consultation in the development of international studies programs for elementary and secondary education on a fee for service basis.

Primary Emphasis

SPICE emphasizes curriculum and staff development and offers a wide variety of teaching materials and staff development programs. SPICE has strong interests in the development of university-based international studies centers and program evaluation.

Publication of Teaching Materials

SPICE offers over 60 titles which include curriculum units, resource guides, and research reports. Write us for a free catalogue.